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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/875,081	06/07/2001	Yoko Fujiwara	018775-830	6215

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EXAMINER

DESIRE, GREGORY M

ART UNIT	PAPER NUMBER
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2624

DATE MAILED: 08/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/875,081	Applicant(s) FUJIWARA, YOKO	
	Examiner Gregory M. Desire	Art Unit 2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 10-171 is/are rejected.
- 7) ☒ Claim(s) 9 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 June 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 8/8/06 has been entered.

Response to Amendment

2. Applicant's arguments with respect to claims 1-8 and 10-11 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-3, 7-8, 10, 12-14 and 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ikeshoji et al (6,088,479) in view of Abe et al (5,086,434) and Ohta (6,163,623).

Regarding claims 1 and 17 Ikeshoji discloses,

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Receiving image data for an image, the original image having character images provided on a background image (note fig. 1 original drawing block 10D, has character images (34) on a background image (20) in connection with col. 2 lines 49-50 and 43-46, scanner receives original drawing having character image 34 on a background image 20);

Extracting areas from the image data, which correspond to the character images (note fig. 1 30d, 34 in connection with col. 3 lines 17-20, subtracting process obtaining characters, examiner interprets as extracting area in correspondence to the character images from image data);

Changing the image data by replacing the extract areas (note fig. 1, block 100 and 110, filters change the image data) with reference to the image data (note col. 3 lines 3-16, replaces brightness with reference to the image data), therein generating changed image data representing an image, which is the same as the original image except without the character image (note fig. 1 block 20D shows original image lacking the replaced character image).

Storing the changed image data and the character data along with a relationship between them (note col. 3 lines 21-23, lines cites background image and character images are stored in an image file and from the specification page 7 lines 2-5 examiner interprets the relationship between them is the image datum are included in a document, thus combining the changed image data and the character data (note fig. 3 10D-1 in connection with col. 4 lines 5-11, the composer combines the background data

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and character image data and stores the image data 10D1 in an image file examiner interprets an output of an image file is a document).

Ikeshoji's system extracts areas in correspondence to character images and stores character images along with changed image data. However, Ikeshoji does not generate character code data from extracted data and store character code data. Abe discloses character recognition by the CPU generating character code data (col. 7 lines 49-51), and storing character code data in the image memory (see fig. 1 block 25 and col. 2 lines 59-68). Abe's character recognition discriminates between recognized and unrecognized characters (note col. 7 lines 51-61). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to generate character code from the extracted characters in Ikeshoji. Encoding of characters by character recognition, saves labor, thus reducing time required for communication. Recognized and unrecognized characters are transmitted in code block, reducing the number of blocks, thus reducing communication time (note col. 9 lines 5-21, of Abe).

Ikeshoji and Abe do not clearly disclose preprocessing the image data for OCR. Ohta discloses preprocessing image data for OCR (note fig. 2, block 340 and col. 5 lines 27-30). Ikeshoji, Abe and Ohta are combinable because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to include preprocessing the image data for OCR in the system of Ikeshoji and Abe as evidenced by Ohta. The suggestion/motivation for doing so would have been eliminating noise and screen image areas (note col. 5 lines 21-25).

Therefore, it would have been obvious to combine Ikeshoji and Abe with Ohta to obtain the invention as specified in claim 1.

Regarding claim 2 Ikeshoji discloses,

Complementing character image data based on image data around the character image (examiner interprets this as deleting or removing character image consistent with background image. The examiner uses the specification page 6 lines 11-13, col. 11 lines 21-22 and fig. 9 as reference. Ikeshoji removes the character image producing only a background image as shown in fig.1 block 20d and col. 3 lines 13-15).

Ikeshoji system extracts areas in correspondence to character images. However, Ikeshoji does not convert character image data to character code data. Abe discloses character recognition by the CPU converting character code data (col. 7 lines 49-51). Abe's character recognition discriminates between recognized and unrecognized characters (note col. 7 lines 51-61). Therefore it would have been obvious to one having ordinary skills in the art at the time of the invention was made to convert character code from the extracted characters in Ikeshoji. Encoding of characters by character recognition, saves labor, thus reduces time required for communication. Recognized and unrecognized characters are transmitted in code block, reducing the number of blocks. Thus reducing communication time (note col. 9 lines 5-21).

Ikeshoji and Abe do not clearly disclose preprocessing the image data for OCR. Ohta discloses preprocessing image data for OCR (note fig. 2, block 340 and col. 5

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lines 27-30). Ikeshoji, Abe and Ohta are combinable because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to include preprocessing the image data for OCR in the system of Ikeshoji and Abe as evidenced by Ohta. The suggestion/motivation for doing so would have been eliminating noise and screen image areas (note col. 5 lines 21-25). Therefore, it would have been obvious to combine Ikeshoji and Abe with Ohta to obtain the invention as specified in claim 2.

Regarding claim 3 Ikeshoji discloses,

Complementing the character image data based on image data around the character image (examiner interprets complementing as deleting or removing character image to be consistent with background image the examiner uses the specification page 6 lines 11-13, col. 11 lines 21-22 and fig. 9 as reference. A filter is used in the instant application and Ikeshoji uses a filter to remove the character image producing only a background image as shown in fig.1 block 20d and cited col. 3 lines 13-15).

Storing the character data and the image data including the complemented character image data along with the relationship between them (note col. 3 lines 21-23, lines cite background image (complemented character image data and character images are stored in an image file and from the specification page 7 lines 2-5 examiner interprets the relationship between them is the image datum are included in a document, thus combining the complemented image data and the character data (note fig. 3 10D-1 in connection with col. 4 lines 5-11, the composer combines the

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background data (complemented character image data) and character image data and stores the image data with relationship between 10D1 in an image file). The examiner interprets an output of said image file is a document).

Ikeshoji system extracts areas in correspondence to character images and stores character images along with complemented character image data. However, Ikeshoji does not convert image data to character code data. Abe discloses character recognition by the CPU generating character code data (col. 7 lines 49-51), and stores character code data in the image memory (see fig. 1 block 25 and col. 2 lines 59-68). Abe's character recognition discriminates between recognized and unrecognized characters (note col. 7 lines 51-61). Therefore it would have been obvious to one having ordinary skills in the art at the time of the invention was made to convert image data to character code in Ikeshoji. Encoding of characters by character recognition, saves labor, thus reduces time required for communication. Recognized and unrecognized characters are transmitted in code block, reducing the number of blocks. Thus reducing communication time (note col. 9 lines 5-21).

Ikeshoji and Abe do not clearly disclose preprocessing the image data for OCR. Ohta discloses preprocessing image data for OCR (note fig. 2, block 340 and col. 5 lines 27-30). Ikeshoji, Abe and Ohta are combinable because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to include preprocessing the image data for OCR in the system of Ikeshoji and Abe as evidenced by Ohta. The suggestion/motivation for doing so would have been eliminating noise and screen image areas (note col. 5 lines 21-25).

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Therefore, it would have been obvious to combine Ikeshoji and Abe with Ohta to obtain the invention as specified in claim 3.

Regarding claim 7 Ikeshoji discloses,

An extractor (which read on subtractor, note fig. 1 block 120), which extracts character image data in image data (which read on character and figure image fig. 1 block 30d and 34) with character image on a background image (note Ikeshoji fig. 1 block 120, in connection with col. 3 lines 17-23, subtracting process extracts character image data in image data with character image on a background image (fig. 1 block 10);

A deleter (which reads on filter 110) which deletes the character images on the background image with reference to the image data (note Ikeshoji figure 1 blocks 110 and 20D in connection with col. 3 lines 13-15, the noise removal filter the examiner interprets as a deleter, the image data includes character images on a background image, the noise removal filter deletes the character images on the background image producing a background image) thereby generating changed image data representing an image, which is the same as the original image except for lacking the replaced character image (note fig. 1 block 20D shows original image lacking the replaced character image);

A synthesizer (which read on composer, fig. 3 block 300), which synthesizes the character data with the image data from which the character image is deleted (note fig. 3, 10D-1 in connection with col. 4 lines 5-11, the composer combines/synthesizes the

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character data with background data (image data from which the character image is deleted).

Ikeshoji system extracts character images and synthesizes character images along image data with deleted character data. However, Ikeshoji does not convert image data to character code data. Abe discloses character recognition by the CPU converting image data to character code data (col. 7 lines 49-51), and synthesizing character code data resulting in mixed data (col. 2 lines 59-68 and col. 5 lines 27-30). Abe's character recognition discriminates between recognized and unrecognized characters (note col. 7 lines 51-61). Therefore it would have been obvious to one having ordinary skills in the art at the time of the invention was made to convert image data to character code in Ikeshoji. Encoding of characters by character recognition, saves labor, thus reduces time required for communication. Recognized and unrecognized characters are transmitted in code block, reducing the number of blocks. Thus reducing communication time (note col. 9 lines 5-21).

Ikeshoji and Abe do not clearly disclose preprocessing the image data for OCR. Ohta discloses preprocessing image data for OCR (note fig. 2, block 340 and col. 5 lines 27-30). Ikeshoji, Abe and Ohta are combinable because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to include preprocessing the image data for OCR in the system of Ikeshoji and Abe as evidenced by Ohta. The suggestion/motivation for doing so would have been eliminating noise and screen image areas (note col. 5 lines 21-25).

Therefore, it would have been obvious to combine Ikeshoji and Abe with Ohta to obtain the invention as specified in claim 7.

Regarding claim 8 Ikeshoji, Abe and Ohta (434) discloses,

Wherein said deleter complements the image data at an area of character images on the background image according to image data of an ambient background image of the area (examiner interprets complementing as deleting or removing character image to be consistent with background image, examiner uses the specification page 6 lines 11-13, col. 11 lines 21-22 and fig. 9 for reference. A filter is used in the instant application to complement the image data and Ikeshoji also uses a filter to remove the character image producing only a background image as shown in fig.1 block 20d and cited col. 3 lines13-15).

Regarding claim 10 Ikeshoji and Ohta discloses,

An extractor that extracts character image data. However, Ikeshoji and Ohta are silent teaching extracting character by character. Abe discloses extracting character image data character by character (note col. 8 lines 6-10, character recognition is performed character by character). Discriminating recognized and unrecognized characters providing efficient transmission. Therefore it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to extract image data character by character in the system of Ikeshoji and Ohta. Efficient transmission would have been a desirable feature in the synthesis art due to output functions and

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Abe recognizes efficient transmission would be expected when extracting character by character in Ikeshoji.

Regarding claims 12-14 and 16 Ikeshoji discloses,

Wherein in the converting step, the character code and generated in reference to color information on the character image (note col. 6 lines 50-58).

5. Claims 4 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ikeshoji et al (6,088,479) in view of Abe et al (5,086,434), Melen (6,151,423) and Ohta (6,163,623).

Regarding apparatus claim 4 Ikeshoji discloses,

A reader (which reads on scanner col. 2 lines 49-50), which reads a document to provide image data thereof (note col. 2 lines; 49-51, scanner reads original drawing which read on documents creating image data 10D);

A corrector (which reads on filter fig. 1 block 110) which changes the character image data to the same as a color of an image around the character image with reference to the image data (note col. 5 line 41- col. 6 line 37 and col. 8 lines 3-20, examiner interprets changing the character image data to same as a color of an image around the character image as replacing image data brightness of plurality of pixels around it producing a background image, the examiner uses the specification page 6 lines 11-13, col. 11 lines 21-22 and fig. 9 as reference. A filter is used in the instant application and Ikeshoji uses a filter to change the character image data to same as a

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color image around the character image (note fig. 1D and cited col. 3 lines 13-15, the brightness relates to color col. 5 lines 35-65)) thereby generating changed image data representing an image, which is the same as the original image except for lacking the replaced character image (note fig. 1 block 20D shows original image lacking the replaced character image); and

A storage device (image file by processor note col. 3 lines 22-23 and col. 4 lines 10-11), which stores the character code data and the image data including the complemented character image data along with a relationship between them (note col. 3 lines 21-23, lines cite background image (complemented character image data) and character images are stored. The specification page 7 lines 2-5, examiner interprets the relationship between them as the character data and complemented image data (background) being included in a document, thus the complemented image data and the character data are combined (note fig. 3 10D-1 in connection with col. 4 lines 5-11, the composer combines the background data (complemented character image data) and character image data and stores the image data with relationship between 10D1 in an image file). The examiner interprets an output of said image file is a document).

Ikeshoji system extracts areas in correspondence to character images and stores character images along with corrected image data. However, Ikeshoji does not determine character code data from read document and store character code data. Abe discloses character recognition by the CPU determining character code data (col. 7 lines 49-51), and stores character code data in the image memory (see fig. 1 block 25 and col. 2 lines 59-68). Abe's character recognition discriminates between recognized

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and unrecognized characters (note col. 7 lines 51-61). Therefore it would have been obvious to one having ordinary skills in the art at the time of the invention was made to determine character code from the extracted characters in Ikeshoji. Encoding of characters by character recognition, saves labor, thus reduces time required for communication. Recognized and unrecognized characters are transmitted in code block, reducing the number of blocks. Thus reducing communication time (note col. 9 lines 5-21).

Ikeshoji and Abe are silent determining data on a position in the character image data converted to character code data in the image data. However, Melen includes an acquiring device (which reads on pre-processor note fig. 2 block 225), which determines position data on a position in the character image data converted to character code data in the image data (note col. 4 lines 7-10 and fig. 3 block 302 in connection with col. 7 lines 19-27). Lines cite determining location/orientation from character image data, which is converted to character code data. Therefore it would have been obvious to one having ordinary skills in the art to include an acquiring device in the system of Ikeshoji as evidenced by Melen. Ikeshoji presents character data from a document and Melen in the same field of endeavor determines position data of character data converted to character code without negatively impacting scanning efficiency, providing correct orientation when scanning (note col. 2 lines 33-36).

Ikeshoji, Abe and Melen do not clearly disclose preprocessing the image data for OCR. Ohta discloses preprocessing image data for OCR (note fig. 2, block 340 and col. 5 lines 27-30). Ikeshoji, Abe, Melen and Ohta are combinable because they are

from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to include preprocessing the image data for OCR in the system of Ikeshoji, Abe and Melen as evidenced by Ohta. The suggestion/motivation for doing so would have been eliminating noise and screen image areas (note col. 5 lines 21-25). Therefore, it would have been obvious to combine Ikeshoji, Abe and Melen with Ohta to obtain the invention as specified in claim 4.

Regarding claim 15 Ikeshoji discloses,

Wherein in the converting step, the character code and generated in reference to color information on the character image (note col. 6 lines 50-58).

6. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ikeshoji, Abe (5,086,434), Melen and Ohta in further view of Abe et al (6,289,121).

Regarding claim 5 Ikeshoji, Abe, Melen and Ohta discloses,

An acquiring device, which determines data, based on the character image data in correspondence to character image in the image data. Ikeshoji, Abe (434), Melen and Ohta's device do not determine font and font size. However, Abe (121) does determine font (fig. 1 block 24) and font size (fig. 1, block 26). Therefore it would have been obvious to one having ordinary skill in the art to determine font and font size in the system of Ikeshoji, Abe (434), Melen and Ohta as evidenced by Abe (121). Ikeshoji, Abe (434), Melen and Ohta scan data from a document and Abe (121) in the same field

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of endeavor determines portion of a layout of a document using font and font size (note col. 4 lines 49-55).

7. Claims 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ikeshoji Abe (5,086,434), Melen and Ohta in further view of Koakutsu et al (6,285,459)

Regarding claim 6 Ikeshoji, Abe, Melen and Ohta discloses,

Printer that performs printing functions. Ikeshoji, Abe, Melen and Ohta do not generate print data for printing document images, based on the character code data, position data and image data stored in a storage device. However Koakutsu teaches a processor that generates print data (note col. 4 line 10), based on character code (col. 4 lines 12-13), position data (col. 4 lines 16-18 and image data stored (col. 4 lines 14-15). Therefore it would have been obvious to one having ordinary skills in the art to include a processor generating print data for printing document image based on character code data, position data and image data stored, in the system of Ikeshoji, Abe, Melen and Ohta as evidenced by Koakutsu. Ikeshoji, Abe, Melen and Ohta prints a synthesized output data and Koakutsu in the same field of endeavor generates data based on character code data, position data and image stored assisting in selective designation of subset image to minimizing retransmission and providing a high throughput printing (note col. 2 lines 64-67 and col. 3 lines 8-11).

8. Claims 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ikeshoji, Abe (5,086,434) and Ohta in further view of Johnson (5,212,739).

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Regarding claim 11 Ikeshoji, Abe and Ohta discloses.

An extractor, which extracts the character image data character by character by character by character, and various methods (Abe col. 8 lines 5-7 and 13-16).

However, Ikeshoji, Abe and Ohta do not specifically disclose an extractor, which extracts the character image in the unit of word. Johnson discloses wherein an initial extraction of a unit word of an image data is performed (note col. 2 lines 53 and fig.9 block 904). Therefore it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to use a unit of word extractor as method of extracting in Ikeshoji, Abe and Ohta. Improving recognition of degraded characters of a document have been a highly desirable feature in the character extraction art, due to larger segmented portion and Johnson recognize that a system insensitive to common noise distortion would be expected when word extractor (note fig. 2 lines 20-21) of Johnson is used in the system of Ikeshoji, Abe and Ohta.

Allowable Subject Matter

9. Claim 9 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

10. The following is a statement of reasons for the indication of allowable subject matter for claim 9. The prior art fails to disclose, wherein a converter does not convert

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a character image data to character code data when an area of the character image data has color change. The comparison of the color components described in the specification pages 10 and 11, distinguishes over prior that would use binary values in detecting character error. This feature of a conditional converter, wherein the converter does not convert a character image to a character code when a color change is within a character in combination with the other features is not taught in the prior art.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregory M. Desire whose telephone number is (571) 272-7449. The examiner can normally be reached on M-F (6:30-3:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Bella can be reached on (571) 272-7778. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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Gregory M. Desire
Examiner
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G.D.
August 20, 2006

A handwritten signature in cursive script that reads "Gregory M. Desire".